Hospital Registry Perform Casefinding and Passive Follow-Up Use Case

Version 2.0

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Centers for Disease Control and Prevention

National Center for Chronic Disease Prevention and Health Promotion

Division of Cancer Prevention and Control

National Program of Cancer Registries

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General Information

1. Use Case ID

HUC 1.4

2. Use Case Name

Perform Casefinding and Passive Follow-Up

3. Description

This use case describes the process for finding a cancer case and performing passive follow-up.

4. Actors

- Registrar
- Cancer registry (CR) software
- Data sources

5. Definitions

The following database table names are used within the use cases.

- **ToBeProcessed Table:** Event reports that have been submitted to the registry for casefinding, abstracting, and follow-up.
- **ToBeAbstracted Table:** Event reports that need abstracting.
- **PendingInformation Table**: Event reports for which we have requested more information.
- **MatchedEventReport Table:** Event reports that match a cancer case in the registry.
- **ArchivedEventReport Table:** Event reports that don't match a cancer case in the registry.
- **CorrectedEventReport Table:** Updated versions of previously submitted event reports.
- **DuplicateEventReport Table:** Duplicate versions of previously submitted event reports.

Perform Casefinding and Passive Follow-Up

Note: The diagram for this use case is in Appendix A.

1.0 Preconditions

A set of conditions that must be met before the activities described in the use case can begin.

The event report is marked as complete and the timeframe for collecting information from the data source has been met.

2.0 Post Conditions

A set of conditions that must be met after the activities described in the use case have been completed.

1. The event reports in the ToBeProcessed table have been processed according to their status as a cancer[1] relevant report.
2. The follow-up status on existing patients has been updated.

3.0 Priority

Describes the importance and sequence of the use case in the overall activities of the cancer registry.

This use case is a high priority in registry operations.

4.0 Frequency of Use

Describes how often the activities in the use case take place.

Although casefinding and passive follow-up are performed daily, not all event reports are processed daily. Processing occurs when an event report is considered complete and when a particular data source should be reviewed for casefinding and follow-up information. Each data source has its own definition of "complete" and its own timeline for collection and review by the registrar.

5.0 Normal Course of Events

Describes the specific steps taken to perform the activity in the use case.

Normal refers to the steps that are taken when everything goes according to routine procedures. Problems and exceptions are described in section 6, Alternative Course.

Business rules are statements that describe a decision that must be made and agreed to by those involved in the activity. In the context of this document, a business rule describes the decision that needs to be made, and in some circumstances provides a recommendation; in others, options for consideration and use.

Software requirements are statements that describe the functionality of the software that is required or recommended.

[1] The term cancer is used within this document to mean all reportable conditions, including benign brain and central nervous system tumors, *in situ* cancers, and malignant cancers.

5.1 Cancer registry (CR) software checks the submission status of the event report in the ToBeProcessed table.

5.1a Software compares the event report to those in the ArchivedEventReport table.

Unique ID = Facility ID + Report Type + Event Report ID number. In this scenario, the event report ID number is the pathology report number.

5.1a.1 If the event report exists, check its status.

- If its status is Corrected, send it to CorrectedEventReport table.
- If its status is Not Corrected, send it to DuplicateEventReport table.
- Process ends.

5.1a.2 If the event report does not exist, then it is a new event report.

Note: Defer to the NPCR–MERP Central Cancer Registry Workgroup to determine how to process corrections and duplicates.

5.2 CR software performs patient linkage on a new event report in the ToBeProcessed table to determine if the patient already has an abstract in the CR database.

5.2a Software compares the event report to the abstracts in the cancer registry database.

Note: Software uses deterministic or probabilistic methods for matching event reports to abstracts, which is outside the scope of this use case.

5.2a.1 If the event report matches an abstract, then the patient is an existing patient.

5.2a.2 If the event report does not match an abstract, then the patient is new.

5.3 CR software determines whether the event report is relevant for cancer. [BR01]

5.3a If the event report matches criteria from a recognized cancer registry source, then it is relevant.

5.3b If the event report does not match criteria from a recognized cancer registry source, then it is not relevant.[2]

BR	Business Rule	Purpose	Remarks
01	CR software must use cancer matching criteria from a recognized cancer registry source.	To ensure accurate and consistent selection of relevant event reports.	Automated eligibility criteria include: • NAACCR Search Term List at www.naaccr.org • SNOMED codes 80000–99999 • SEER ICD-O-3 selection criteria • Bayesian filtering • Others: ICD-9, ICD-10, ICD-O-3 Manual determination of eligibility by data source personnel, such as pathologists and radiologists

[2] Relevance checking may be based on probabilities and therefore produce a probability rate between 0.0 and 1.0.

5.4 If the patient has an existing cancer abstract, CR software updates follow-up information on the abstract. [BR02]

Note 1: This decision was made in step 5.2.

Note 2: Follow-up information is updated regardless of whether the event report is relevant for cancer.

BR	Business Rule	Purpose	Remarks
02	CR software should update the abstract with the following data items from the event report in the ToBeProcessed table: Date of last contact • More recent date: automatic update Vital status • Missing value to known value: Automatic update • Alive to dead: Automatic update • Dead to alive: Registrar review Current address	To ensure accurate and consistent selection of relevant event reports.	Additional data items may be updated as appropriate.

5.5 If the event report is not relevant, CR software sends the event report to the ArchivedEventReport table.

Note: This decision was made in step 5.3.

The event report needs to be kept so that registrars can document results of all diagnostic tests performed.

Process ends.

5.6 If the event report is relevant, the registrar reviews it. [BR03, SR01]

5.6a.1 The registrar determines that the event report does not have a reportable cancer.

5.6a.2 CR software moves the event report to the ArchivedEventReport table. Process ends.

5.6b.1 The registrar determines that the event report has a reportable cancer.

5.6b.2 CR software moves the event report to the ToBeAbstracted table. Process ends.

BR	Business Rule	Purpose	Remarks
03	Use the Commission on Cancer's reportability criteria to determine whether an event report represents a reportable cancer.	To provide consistent collection of cancer cases.	Refer to the *FORDS (Facility Oncology Registry Data Standards)* manual.

SR	Software Requirement	Purpose	Remarks
01	The Patient Linkage Status flag must be included in the ToBeAbstracted table.	To classify the reports accurately as needing a new abstract or relating to an existing abstract.	

6.0 Alternative Course of Events

Numbering in this section refers to its associated step above in section 5, Normal Course of Events.

5.2a The registrar determines whether event reports belong to existing records in the CR database.

5.2a.1 The process continues with step 5.3.

5.6a The registrar determines whether relevant event reports represent reportable cancers. [SR02, SR03]

5.6a.1 The process continues with step 5.6.

5.6b The registrar cannot determine whether relevant event reports represent reportable cancers. [SR02, SR03]

5.6b.1 CR software sends the event report to the PendingInformation table.

5.6b.2 The registrar sends e-mail to the data source requesting help to determine reportability.

5.6b.3 The registrar receives a response from the data source and makes the appropriate determination.

5.6b.4 CR software sends the event report back to the ToBeProcessed table.

5.6b.5 The process continues with step 5.6.

SR	Software Requirement	Purpose	Remarks
02	The data structure for the PendingInformation table should include: • Date inserted into table • Record ID number • Data source's e-mail address • Comments section for describing problem • Comments section for action taken	To track and monitor requests for additional information accurately to ensure responses are received.	Additional information may be included.
03	CR software must provide e-mail and data request tracking software.	To provide efficient and accurate communication between the registry and the data source.	

7.0 Business Rules and Software Requirements

A statement that describes a decision that must be made and agreed to by those involved in the activity. In the context of this document, a business rule describes the decision that needs to be made, and in some circumstances provides a recommendation; in others, options for consideration and use.

Business rules for this use case are presented under the step to which they apply.

Software requirements are identified in the context of enhancing and improving current cancer registry software. They are not a complete requirements list from which a new software package can be developed.

BR	Business Rule	Purpose	Remarks
01	CR software must use cancer matching criteria from a recognized cancer registry source.	To ensure accurate and consistent selection of relevant event reports.	Automated eligibility criteria include: • NAACCR Search Term List at www.naaccr.org • SNOMED codes 80000–99999 • SEER ICD-O-3 selection criteria • Bayesian filtering • Others: ICD-9, ICD-10, ICD-O-3 Manual determination of eligibility by data source personnel, such as pathologists and radiologists
02	CR software should update the abstract with the following data items from the event report in the ToBeProcessed table: Date of last contact • More recent date: automatic update Vital status • Missing value to known value: Automatic update • Alive to dead: Automatic update • Dead to alive: Registrar review Current address	To ensure accurate and consistent selection of relevant event reports.	Additional data items may be updated as appropriate.
03	Use the Commission on Cancer's reportability criteria to determine whether an event report represents a reportable cancer.	To provide consistent collection of cancer cases.	Refer to the *FORDS (Facility Oncology Registry Data Standards)* manual.

SR	Software Requirement	Purpose	Remarks
01	The Patient Linkage Status flag must be included in the ToBeAbstracted table.	To classify the reports accurately as needing a new abstract or relating to an existing abstract.	
02	The data structure for the table should include: • Date inserted into table • Record ID number • Data source's e-mail address • Comments section for describing problem • Comments section for action taken	To track and monitor requests for additional information accurately to ensure responses are received.	Additional information may be included.
03	CR software must provide e-mail and data request tracking software.	To provide efficient and accurate communication between the registry and the data source.	

8.0 Exceptions

The following exceptions or triggers need to be addressed:

1. Determine if the records are complete, and handle incomplete records.
2. Set a flag to indicate if the abstract requires more information, if it is complete, or if it is past the deadline for submission.
3. Check for consistency between data items that are sent from various data sources.

9.0 Includes

None.

10.0 Special Requirements

1. The registrar should be able to view all of the records on the screen in the same session.
2. Upon completion of the final patient record, all event reports from the registry database should be deleted.
3. For follow-up, the registrar should be able to view records of a patient who does not have a cancer diagnosis when the patient comes in for tests the first time, but the data for each patient should be updated with the date of last contact and vital status.

11.0 Assumptions

This use case is based on the following assumptions:

1. It is being developed following the Health Insurance Portability and Accountability Act (HIPAA) rules and regulations.
2. The processes are time-sensitive: records must be sent to the hospitals according to a strict deadline, and records must be sent from the hospitals to the registries on a strict deadline.

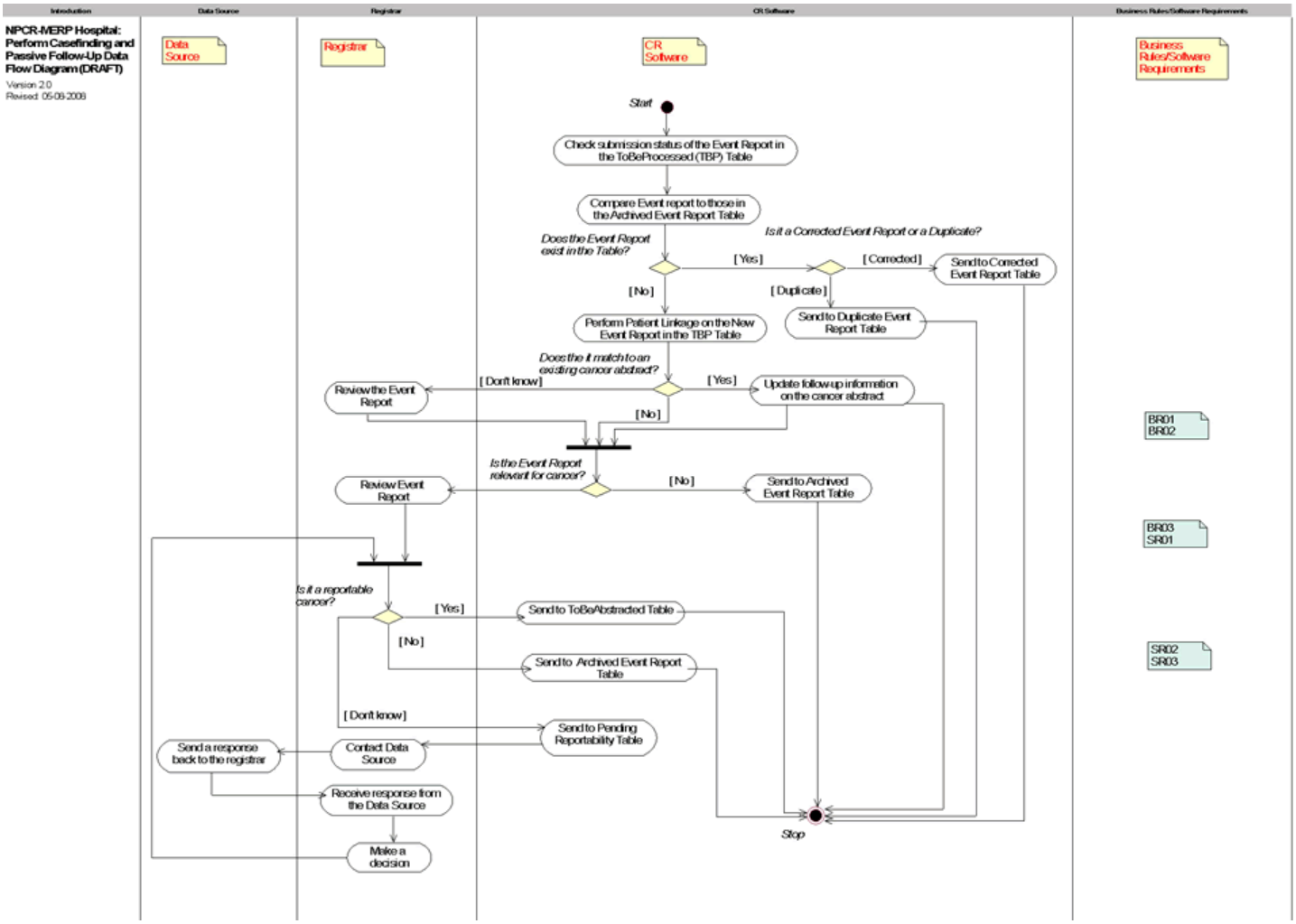
12.0 Notes and Issues

None.

13.0 References

None.

Appendix A: Perform Casefinding and Passive Follow-Up Data Flow Diagram



Appendix B: Definitions and Data Sources

Definitions

Admissions
The hospital department that processes patient admissions and generates key patient identification and demographic data, including the patient's name, address, date of birth, race, sex, Social Security number, and insurance carrier.

Business Office
The department responsible for billing and collecting payment from individuals or third-party payors for healthcare services rendered by the facility. It provides information on the financial statement submitted for payment.

Diagnostic Imaging
The hospital department that creates images of structural or functional patterns of human organs or tissues for the purpose of identifying, diagnosing, or monitoring disease. Radiographs (X-rays), fluoroscopy, ultrasound, mammography, computerized tomography (CT scans), positron emission tomography (PET scans), magnetic resonance imaging (MRI scans), and nuclear medicine imaging are included. Information reported from diagnostic imaging includes the type of study, body location, description and evaluation of the image, and diagnosis.

Disease Index
A numerically sequenced list of diseases and conditions diagnosed in hospital patients. Diseases and conditions identified in patient medical records are coded using a standard classification system such as ICD-9-CM or CPT (Current Procedural Terminology). The disease index, compiled from these codes, is a casefinding source for the cancer registry.

Medical Records
Paper-based or computerized information recorded during the patient's encounters with the facility; the primary source of patient identification, diagnosis, and treatment information.

Oncology Clinics
Ambulatory care units responsible for staging, medical treatment, and follow-up of cancer patients in a hospital. A clinic may focus on a particular cancer site such as breast cancer, provide a centralized setting for chemotherapy administration, or coordinate all services provided to oncology patients throughout the facility. Medical oncology documentation varies according to the services provided and may be separate from the hospital medical record.

Outpatient Services
Ambulatory services provided to patients in hospital-based clinics and departments where the length of stay is less than 24 hours. Documentation of outpatient services, which includes the patient's medical history, physical examination, diagnostic and therapeutic procedures, consultations, observations, and discharge notes, usually is integrated with the patient's inpatient medical record to form a unified hospital medical record.

Pathology Laboratory
A department that examines organs, tissues, cells, and bodily fluids removed from patients for the investigation and diagnosis of disease, and conducts autopsies to study disease processes and to determine cause of death. Pathology reports include the type of material examined, body location from which the specimen was taken, gross and microscopic description and evaluation of tissues, components of bodily fluids, and diagnosis.

Pharmacies
A hospital pharmacy maintains the hospital formulary, stocks and releases drugs for treatment as ordered by physicians, addresses complex clinical medication management issues, and provides information on

available drugs, including generic and brand names, disease-specific prescriptions, and drugs administered to individual patients.

Radiation Oncology
The department that provides curative, adjuvant, or palliative cancer treatment using radiation to control malignant cells. Radiation may be given as external beam radiotherapy, brachytherapy or implantation of radioactive sources, or injection or ingestion of radioactive materials. Radiation oncology documentation, which may be maintained separate from the hospital medical record, includes pre-treatment consultation summarizing the cancer diagnosis and treatment to date, treatment planning and daily dose delivery, treatment summary, and patient follow-up visits.

Specialty Databases
Collections of data that describe a hospital's diagnostic and treatment experience with a specific disease. They are tools for improving the quality of care and measuring the effectiveness of healthcare delivery for that disease. An example is the cancer registry database, which contains cancer-related information abstracted from patient medical records and patient follow-up data gathered from outside sources.

Treatment Logs
Daily records of treatment given or procedures performed in a hospital department such as a surgery unit or an outpatient chemotherapy clinic. They generally include patient identifiers, procedures performed, diagnosis, and practitioners, and are a source of casefinding data.

External Data Sources

Freestanding Diagnostic Imaging (Radiology) Centers
A diagnostic imaging center located in a facility outside the hospital. (See Diagnostic Imaging, above.)

Freestanding Radiation Therapy Center
A radiation therapy center located in a facility outside the hospital.

Freestanding Surgical Center
A surgical center located in a facility outside the hospital.

Physician Office or Clinic
Information on diagnosis, treatment, care, and follow-up of cancer patients occurring in an oncology clinic outside the hospital.

Private Pathology Laboratory
A pathology laboratory located outside the hospital. (See Pathology Laboratory, above.)

Regional Health Information Organization
Definition pending published standards.

Biospecimen/Tissue Bank
Information regarding a repository of tissue specimens collected from one or multiple sources for the purpose of research.[3] May include information[4] such as clinical and histological documentation and the results of assays performed, including DNA sequences and gene or protein expression.

[3] http://www.health.vic.gov.au/ethics/downloads/module3_guidelines.pdf

[4] Golabek JK. (2003). *The role of IT in the operations of biospecimen repositories.* White paper.

Appendix C: Data Source Reports and Timeframe for Submission

Data Source Can be either hospital or freestanding facilities	**Report**	**Timeframe for Submission**
Billing and claims data		Submitted to the registry on the same schedule as submission to primary payers.
Hospital disease index (report)		
Medical record		
Diagnostic imaging		The report is marked as "final" (complete, verified) by a radiologist. Amended and corrected reports are resent.
Pathology	• Surgery • Flow cytometry • Non-gynecologic cytology • Autopsy • Bone marrow • Peripheral smear • Outside slide review	Submitted to the registry on the same schedule as submission to the physician.
Treatment logs (Dictation notes may be more reliable than treatment logs.)	• Surgery • Chemotherapy • Gamma knife • Tomo therapy	
Radiation clinic	• Consultation dictation • Treatment plan • Treatment summary	Submitted to the registry on the same schedule as submission to the Electronic Health Record (EHR).
Oncology clinic	• Consultation dictation • Treatment plan • Clinical dictation	Submitted to the registry on the same schedule as submission to the EHR.
Physician office	Follow-up treatment dictation	Consider two levels: casefinding-level data and abstracting-level data.
Regional Health Information Organization (RHIO) (HIE – Health Information Exchange)	Defer until more formalization by RHIOs	
Tissue bank data	Include in the registry that the patient's tissues have been banked.	
Hospice/palliative care	Clinical dictation relating to cancer.	Submitted to the registry on the same schedule as submission to the EHR.

Appendix D: Data Item Requirements from Data Sources

Data items to be included on all data source reports:

- Patient name (last, first, middle, and maiden)
- Medical record number (more reliable)
- Date of report
- Date of birth
- Sex
- Social Security number
- Responsible physician (last name, first name, middle initial)
- NPI number
- Referring facility (hospital requesting report, responsible for patient)
- Source ID (entity sending report)
- Report ID (type of report received)
- Unique report ID number (new and amended reports)
- File format descriptor (such as text, HL7, or spreadsheet)

Use Case Administrative Information

1. Use Case History

Version 0.05 presented to the NPCR–MERP Hospital Workgroup September 25, 2007.

2. Created By

- NPCR–MERP Hospital Workgroup
- NPCR–MERP Technical Development Team

3. Date Created

June 20, 2006

4. Last Updated By

WS

5. Date Last Updated

July 18, 2008

Revision History

Name	Date	Reason for Changes	Version
MA	6/20/06		0.01
WS	6/22/06	Added to sections 2.6–2.8	0.02
WS	7/5/06	Added to sections 2.6–2.8	0.02
WS	7/20/06	Edited sections 2.6–2.8	0.03
MA, WG	9/25/07	Edited the use case	0.04
WKS, MA	10/11/07	Edited the use case	0.05
WKS, MA	10/22/07	Formatting and updates to the business rules and software requirements	1.0 Publish
WKS, MA	4/24/08	Edited steps 5.2, 5.3 and alternate steps 5.3	1.1
MA, WKS	6/25/08	Updated the steps and diagram	1.2
MA	7/18/08	Formatting changes	2.0 Publish